Sam's Universal Model Theory and New Math Model

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Edited the New Math Model section for reader clarification purposes on September 20, 2017

The following outlines my proposed Universal Model Theory and the Mathematics that governs its behavior. This document provides a brief background of my Universal Model Theory which may help in the understanding of why I developed a New Math Model.

Helpful Background Information

One would get a better grasp of the concept of my theory if they had a basic understanding of the following topics:

- Mass and Energy Equivalence
- Special Relativity and Time
- Heisenberg's Uncertainty Principle
- Planck's Constant
- Quantum Mechanics
- Black Holes
- Large Hadron Collider (video)
- The Double-slit Experiment (video)

Introduction

Since the beginning of mankind, the development of mathematics has always followed a traditional path. It is a well defined tool with absolute rules that enables us to both analyze and predict the behavior of things we observe in nature.

However, I think that there is an inherent flaw in our current system of mathematics that will eventually limit us in the future understanding of both the universe and our existence.

In order to move forward in mathematics and physics, we will need to modify our current mathematical definitions, absolutes, and the procedures used to solve equations. This new math model removes time from the space-time continuum in order to manipulate the behavior of space-time. This math model would yield new outcomes that could actually enable the traversing of space-time independent of the limits imposed by the speed of light.

My theory adds a time property to zero that changes both its function and behavior in Mathematics. Traditionally, one divided by zero (1/0) is undefined. In my math model, one divided by zero (1/0) would equal 1 and not be undefined. The theory also treats the act of multiplication and division as a process rather than an arithmetic operation.

The effect becomes apparent if you consider the mode and order of execution with respect to time. For instance, different results will occur if you take into account the order of execution. For example, if a calculation is performed in Series where $\Delta t > 0$ or in Parallel where $\Delta t = 0$. Adding a time property will affect the behavior of zero and would redefine the Fundamental Rules of Mathematics changing how mathematical calculations are performed and their final outcome.

The following Universal Model Theory is provided as a precursor to explaining my New Math Model so that you can understand why I developed a new math model in the first place. It is an attempt to explain my views of physics and the behavior of the universe.

Universal Model Theory

Since my 20's I have always believed that multiple universes do exist and therefore formulated the following theory. A universe can be positioned anywhere in a random multi-dimensional lattice of universes. For simple illustrative purposes, let's use a single 3D lattice of moving bubbles as shown in Figure 1, where each universe is spherical in nature as in Figure 2. The tangent intersection points of each sphere with the adjacent spheres within the lattice structure are what I would refer to as zero points. I believe that black holes are just zero points that occur at the intersection of universes and are a phenomenon that allows for the perception of a Big Bang, but in actuality, the Big Bang did not really occur in the sense it is theorized today.

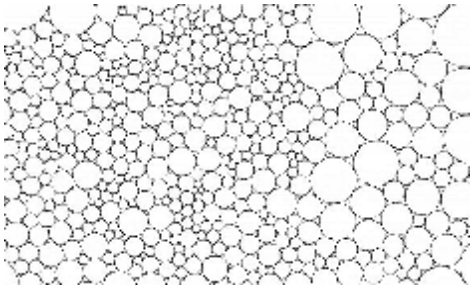


Figure 1: A cross-section of a 3D lattice of moving bubbles

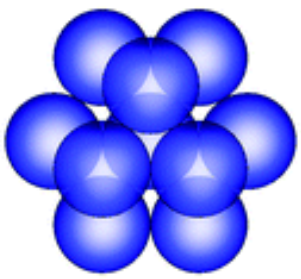


Figure 2: Spherical Universes

To help understand my theory, consider this. If you move a time plane as shown in Figure 3 through a sphere from top to bottom starting at the tangent point of intersection and traverse through the sphere, it would appear from the initial point of intersection on the time plane that a hole would appear and the diameter of the hole would get larger forming a semi-spherical shaped history while traversing the sphere. The diameter of the hole in the time plane would reach a maximum size and then would gradually get smaller as the time plane traverses completely through to the opposite side where it would immediately interface and traverse through another sphere as shown in Figure 4. Basically, time does not exist at the tangent point of intersection between the time plane and the sphere. The perception of time only exists while the time plane is within the domain of the sphere. When the time plane reaches the opposite side of the sphere, perceived time again does not exist. It can also be referred to as going from a state of nothing to something then back to nothing, whereas vanishing into nothing and back into something. The definition of "Something" can only exist if $\Delta t > 0$.

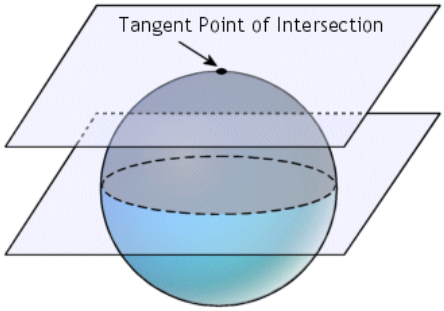


Figure 3: A Time plane intersecting a spherical universe

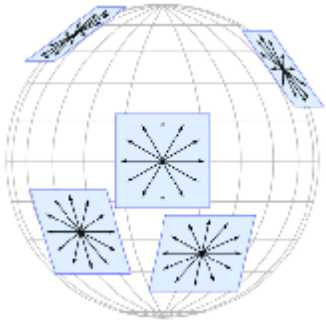


Figure 4: Multiple Time planes intersecting a spherical universe

I believe that the Big Bang did not actually create the universe; it is only a phenomenon or perception that occurs when two universes initially intersect. The interface point between the two universes is called zero. This phenomenon allows for the perception of time thus giving birth to the definition of the word "observation".

Observation occurs at the instant when a time plane begins to traverse a sphere starting at the point of intersection between the time plane and sphere. This behavior would be similar to the Big Bang in which things started from a singularity, expands, and eventually collapses into a Big Crunch.

Black holes on the other hand are just the inverse of Big Bangs that occur on the opposite side of the tangent plane when the time plane initially begins to traverse through a universe. At $\Delta t \cong 0$, one side of the time plane would appear as a black hole and the other side would appear as a Big Bang.

Keep in mind that this is all based on the perception of time. I believe that time itself does not actually exist as we understand it today, but instead is a multi-layered causality phenomenon. The perception of time exists because of the term "observation". Observation is a term used to define $\Delta t > 0$. At $\Delta t = 0$ the term "observation" could not exist because there is no interval of time.

The concept of a single dimension, such as the unit of length or distance, could only exist when $\Delta t > 0$ thus allowing for the perception of time. Without time or where $\Delta t = 0$, length, distance, velocity, and acceleration would not exist.

The Perception of Time

As stated previously, I believe that time itself does not actually exist but is a multi-layered causality phenomenon that gives rise to observation. The Time phenomenon is present only within the boundaries of a multi-dimensional universe. Outside the boundaries of a universe, at the zero point of intersection between the time plane and a universe, time does not exist.

To us humans observation is witness to an event where $\Delta t > 0$. Due to our biologically limitations, we can only experience the time phenomenon moving in one direction, towards the future. But in actuality, the time phenomenon is not limited to one direction. It can exist in any direction, forward or reverse.

Causality is relationship between cause and effect and only exist when $\Delta t > 0$. Generally speaking, a cause originates and then there is an effect. Since the time phenomenon can exist in both the forward and reverse directions, an effect can create the cause. Causality and observation can also be related to Quantum Entanglement.

The Time phenomenon can also have some paradoxical affects. It is difficult to explain these paradoxes but maybe a simple example may help. Say for instance you record a video at normal speed of a one minute long event, t_1 going to t_2. Then you watch the one minute video played backwards for a period of one minute. Since it takes one minute to watch the

one minute video, you are simultaneously “observing” time moving forward and backwards at the same time. Even though the recorded event happened first, you are watching t_2 going to t_1 within an interval of t_3 going to t_4.

Infinity with Respect to Time

The term infinity is used to describe both the infinitely large and infinitely small. In mathematics for example, infinity is associated with the asymptotic behavior of certain equations that approach zero as they tend to infinity as shown in Figure 5.

As stated previously, the concept of a single dimension, such as the unit of length or distance, could only exist when $\Delta t > 0$ thus allowing for the perception of time. Without time or where $\Delta t = 0$, length, distance, velocity, and acceleration would not exist.

Without time, at $\Delta t = 0$, both negative and positive infinity $(-\infty,+\infty)$ converge together and form a single infinity where $-\infty = +\infty$. In reference to the universe, this would mean an infinitely small space would occupy the same realm of an infinitely large space.

As the difference in time gets close to zero ($\Delta t \cong 0$), and you zoom infinitely down into an atom, past the nucleus, protons / neutrons, quarks, and strings, one would observe an infinite universe similar to the large universe. In other words, at $\Delta t = 0$ there would be a universe within a universe such that a portal would exist between the small and large universes.

This condition is difficult to represent in a 2 or 3 dimensional manner since infinity is indeterminate and not a number. With a little imagination, consider the following:

In 2D, it would be similar to an infinitely small space represented as a point within the center of circle that represents an infinitely large space. In 3D, it would be represented by the plot shown in Figure 6. As Δt approaches 0, both $-\infty$ and $+\infty$ will converge together.

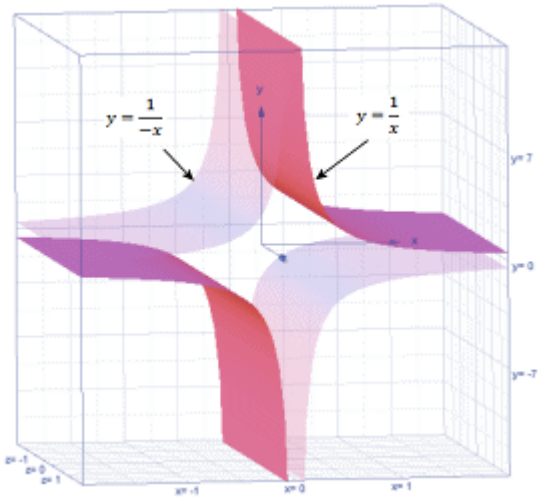


Figure 5: Asymptotic Equations 1/x and 1/-x

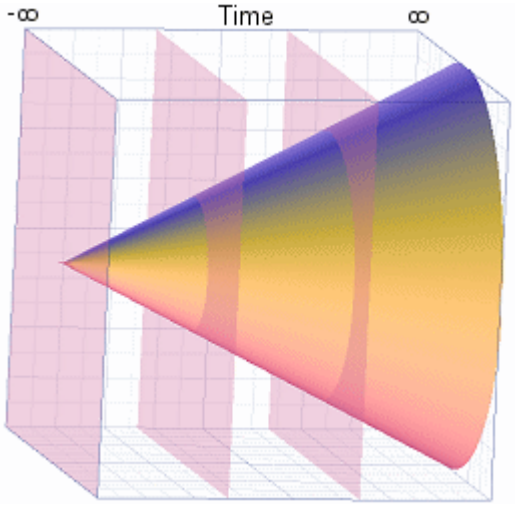


Figure 6: Both -∞ and +∞ converging together

Sam's New Math Model

My new math model redefines how calculated results can vary from that of results obtained using traditional mathematical methods. This new math model could help expand our knowledge of the existence and behavior of things and intangibles at the instance of t=0 such as in the case of a gravitionaless and timeless singularity. In retrospect, this could also explain or redefine what we refer to as "nothing".

In order for something to be perceived, such as in the case of a singularity, it has to be observed, and therefore Δt must be greater than 0. For something to be observed, you have to be somewhere else in order to observe it. Otherwise, we wouldn't know of its existence in the first place and the term observation would not exist.

In the case of a singularity event, such as the Big Bang, a singularity explodes and creates the universe. At the instant Δt became greater than 0, it exploded from nothing into something. The term nothing cannot be defined as a state of non existence or emptiness as it is traditionally accepted today. Nothing, in actuality, really exists, but it only exists in a timeless state at Δt = 0, and therefore transitions into "Something" at Δt > 0.

The Properties of Zero With Respect To Time

In traditional Mathematics, zero is defined as both a number and a numerical digit. It fulfills a central role in mathematics as the additive identity of integers, real numbers, and many other algebraic structures. Dividing any number by zero, i.e. 1/0, is considered undefined.

The term Zero is also associated with nothing. Mathematically speaking, zero is a number where nothing exists. Dimensionally speaking, zero resides at an infinitesimally small point.

My Theory adds a time property to zero that changes both its function and behavior in Mathematics, therefore opening a new realm of mathematics where one divided by zero (1/0) would equal 1 and not be undefined.

Creating a New Math Model

Mathematics is missing a time property in which both time and perspective can change the outcome of a Mathematical Operation such as multiplication and division.

Currently, the outcome of dividing any number by zero is "undefined". This could only be true when the change in time is greater than zero, Δt > 0. At Δt = 0, any number divided by zero would yield itself and thus be left unchanged. For example, at Δt = 0, one divided by zero (1/0) would equal 1 and be not undefined, as it is traditionally accepted. The effect of 1/0 = 1 at Δt = 0 would propagate throughout mathematics and redefine a new class of physics.

The affect on mathematical operations such as division becomes apparent if you consider the mode and order of execution with respect to time. Different results will occur when Δt = 0 and when Δt > 0. For example, the outcome of a mathematical function performed instantaneously at Δt = 0 would have a Parallel effect. A mathematical function performed over time where Δt > 0, would have a Series effect.

With reference to Figure 7, the New Math Model defines a set of newly established fundamental computer logic values used to modify our current calculation method. Figure 7 was created using Microsoft's Excel Spreadsheet program using a set of IF-THEN statements to modify the outcome of mathematical calculations. In other words, an attempt to make the computer perform mathematical calculations where one divided by zero (1/0) would equal 1 and be not undefined.

The pound symbol (#) represents itself, any real or imaginary number. Blue colored values are Excel's calculated results.

Situation	Traditional Math Results	New Math Results	
		Parallel $\Delta t = 0$	Series $\Delta t > 0$
0/0 =	#DIV/0!	0	0
0/1 =	0	0	0
0/# =	0	0	0
1/0 =	#DIV/0!	1	1
2/0 =	#DIV/0!	2	2
#/0 =	#DIV/0!	#	#
1/1 =	1	2	2
1/2 =	0.5	3	4
1/3 =	0.333333333	4	8
1/4 =	0.25	5	16
1/5 =	0.2	6	32
2/1 =	2	4	4
2/2 =	1	6	8
4/1 =	4	8	8
4/2 =	2	12	16

Figure 7: Traditional vs. New Math Model (Calculated Results shown in Blue)

Implementing the New Math Model

The difficulty in implementing the New Math Model utilizing our computer system logic is that the mathematical logic would have to be modified through a set of IF-THEN statements in order to achieve the desired outcome as shown in the New Math Results column in Figure 7.

To avoid using a set of IF-THEN statements to modify the outcome of calculations, we would need to modify our current computer system logic at the machine code level in order to take into account the property of time. A new set of logic rules would have to be established at the fundamental machine level to account for the order of execution with respect to and the absence of time.

Since reprogramming our current mathematical system logic including it's definitions, absolutes, and the procedures used to solve equations at the machine level is beyond of my skill level, all I can do is provide an insight to what could possibly be achieved if we were able to implement this new math model system.

Conclusion

In the future, if we could implement this new math model which removes time from the space-time continuum and adds a time property to zero in order to manipulate the behavior of space-time, we should be able to move forward in the understanding of both the universe and our existence. As stated previously, this math model would yield new outcomes that could actually enable the traversing of space-time independent of the limits imposed by the speed of light.